

Amendments to the Drawings

Please replace the drawings in the above-identified application with the 14 sheets of formal drawings filed herewith (Figures 1-10b). If the replacement drawings for any reason are not in full compliance with the pertinent statutes and regulations, please so advise the undersigned.

Attachments: Fourteen (14) Replacement Sheets (Figs. 1-10b)

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Remarks

Applicants affirm the provisional election without traverse of Group I, claims 1-40, during a telephone conversation between the Examiner and the undersigned on October 7, 2003.

Applicants have amended the specification to correct minor mistakes. Claims 42-49 have been added to provide a more complete set of claims directed to provisionally-elected Group I of the invention. No new matter has been added. Claims 1-49 are pending. Applicants respectfully request entry of this Amendment and prompt reconsideration and allowance of the application.

Claim Rejections Under 35 U.S.C. § 103(a)

Claims 1-40 were rejected under 35 U.S.C. § 103(a) based on U.S. Patent No. 4,775,128 to Alexander et al. ("Alexander") in view of U.S. Patent No. 6,261,082 to Han ("Han").

To establish a prima facie case of obviousness using multiple references: (1) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine reference teachings; (2) there must be a reasonable expectation of success; and (3) the prior art references, when combined, must teach or suggest all the claim limitations. M.P.E.P. 2143. Applicants respectfully submit that the rejections under this section should be withdrawn for at least two reasons.

First, Applicants respectfully submit that Alexander and Han, when combined, do not teach or suggest all the claim recitations of claims 1-40.

The Examiner states:

"Han discloses a self-aligning manual die comprising a knockout shaft (64) at the other end, a bus[h]ing member (42) having a tapered portion (70) corresponding to the tapered end of the shaft in order to obtain a perfectly vertical aligned between the shaft and the bus[h]ing. Therefore, the shear force or the friction force between the shaft and the bus[h]ing would be minimized during the forming and ejecting procedures (col. 3, lines 12-21)."

Final Office Action, page 4, ¶ 2.

Even assuming, as the Examiner argues, that small diameter portion 64 of the ram 46 in Han can be construed as the "knockout shaft," Applicants respectfully submit that Han fails to disclose, "a tapered portion fixed to a second end of the shaft and disposed in the extended position to symmetrically engage a tapered recess in the one of the punch and die assemblies that slidably supports the shaft," as recited in independent claim 1, for example. (Emphases added). Applicants respectfully submit that the tapered portions 70 and 62 of Han do not "engage," "mate," or otherwise "receive" with one another, as recited in claims 1-40.

Instead, "the tapered portion 62 of the ram and the tapered portion 70 of the opening in the die define a gap 74 therebetween." See Han, col. 3, 62-64 and Fig 5. of Han. Han further discloses:

"If there were no gap 74, it is possible that an explosion would occur when the tapered portion 62 of the ram compresses power residue against the wall of the die 42. The vertical dimension of the gap 74 is in the range of about 0.050 inches to about 0.1 inches."

Id. col. 3, line 67, to col. 4, line 4, and Fig. 5. Thus, Han fails to disclose a tapered portion of the shaft that engages the tapered portion of the die assembly, as recited in independent claim 1 and depicted in Fig. 2c, for example.

Additionally, Alexander fails to overcome the above-noted deficiency of Han. As the Examiner stated, "Alexander et al fail[s] to disclose that the shaft having a tapered portion fixed to the second end and the bushing having a tapered recess corresponding with the tapered portion of the shaft." Final Office Action, page 4, ¶ 1.

Thus, for at least this reason, Alexander and Han, when combined, do not teach or suggest all the claim recitations of claims 1-40.

Second, and in addition to the above reason for withdrawing the rejections, Applicants respectfully submit that there is no suggestion or motivation, either in Alexander, Han, or in the knowledge generally available to one of ordinary skill in the art, to combine Alexander and Han in a manner resulting in the claimed invention.

In support of these rejections, the Examiner states,

"the shear force or the friction force between the shaft and the bus[h]ing would be minimized during the forming and ejecting procedures (col. 3, lines 12-21) [of Han]. It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to modify Alexander et al by providing bushing with a tapered portion corresponding to a tapered portion of the knockout shaft as taught by Han, because the tapered portions would provide a perfect vertically alignment between the shaft and the bushing. Thus, the friction force between the shaft and the bushing would be reduced while the wear resistance would be increased."

Final Office Action, page 4, ¶¶ 2 and 3. Applicants respectfully disagree and submit that there is no suggestion or motivation to combine Han and Alexander for at least two reasons.

As for the first reason there is no suggestion or motivation to combine, Applicants respectfully submit that combining the tapered portions 62 and 70 of Han with the apparatus of Alexander would not assist in the alignment of the ram 46 with the die 42.

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Applicants respectfully submit that there is no disclosure in Han of the tapered portions 62 and 70 aligning the ram 46 with the die 42. Instead, Han discloses, "the large diameter portion [68] of the opening [44] having a diameter less than or equal to about 0.002 inches larger than a diameter of the large diameter portion [60] of the ram [46]. . . . wherein vertical alignment of the ram [46] is maintained by insertion of the large diameter portion [60] of the ram [46] in the large diameter portion [68] of the opening [44] in the die." (Emphasis added); Han, col. 2, lines 14-23; see also Figs. 4 and 5 of Han, which illustrate that large diameter portions 60 and 68 maintain vertical alignment of the ram 46 with the die 42, not the tapered portions 62 and 70, which are instead separated by gap 74. Accordingly, there is no reason why one of ordinary skill in the art would have modified the apparatus of Alexander as proposed by the Examiner.

Secondly, Han discloses a manual die set for pressing explosive powder into pellets, while Alexander discloses a method and apparatus for pressing sheet material. See Han and Alexander, generally. Applicants respectfully submit that because Han and Alexander disclose two very different inventions, one skilled in the art would refrain from combining these references, as the Examiner has done.

Thus, for at least these reasons, there is no suggestion or motivation, either in Alexander, Han, or in the knowledge generally available to one of ordinary skill in the art, to combine Alexander with Han in a manner resulting in the claimed invention.

Therefore, the claims are patentable over the art of record, including Alexander and Han. For the reasons discussed above, the § 103(a) rejections applied to claims 1-40 should be withdrawn.

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Conclusion

Applicants submit that the present application is in condition for allowance. If a conversation might advance prosecution, the Examiner is invited to call the undersigned (202-408-4157).

The Office Action contains numerous statements reflecting characterizations about the invention(s), the claims, and the related art with which Applicants do not necessarily agree. Regardless of whether any such statement or characterization is discussed above, Applicants decline to subscribe to any statement or characterization in the Office Action.

If any additional fees are due in connection with the filing of this response, please charge the fee to our Deposit Account No. 06-0916. If an extension of time under 37 C.F.R. § 1.136 is required and is not accounted for above, such extension is requested and the fee should also be charged to our Deposit Account.

Respectfully submitted,

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GARRETT & DUNNER, L.L.P.

Dated: February 24, 2004

By:


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Attachments: Replacement Drawing Sheets (14 pages, Figs. 1-10b)

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